

## The IUPUI Center for HPV Research: Updates 2014-2015

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**Background:** Human papillomavirus (HPV) is a very common infection. High risk (HR) HPV types (particularly types 16 & 18) are causally implicated in many cancers, including cervical, anal, vaginal, vulvar, penile, and head and neck cancers. In an effort to address the problems associated with HPV infection and prevention, the Center for HPV Research at IUPUI (Zimet & Fortenberry, Co-Directors) fosters collaboration among investigators from multiple disciplines and departments at IUPUI, IU Bloomington, Purdue University, and University of Notre Dame. There currently are 32 faculty and 8 pre- and post-doctoral fellows who are members of the Center. The Center for HPV Research was established in July, 2012 with funds from the IUPUI Signature Center Initiative, the Department of Pediatrics, and the IU Simon Cancer Center. Over the past year, Center members had 6 external & internal grants funded, 5 additional grants submitted, 8 peer-reviewed articles published, and gave over 20 scientific conference and invited presentations. In this abstract we highlight a study representing a collaboration among 5 center members, with Dr. Marcia Shew as the lead and including an MPH student.

**Objectives:** Most HR HPV infections do not progress to cancer, but progression is associated with persistent infection. HPV was previously thought to "clear" or persist, but newer studies suggest that HPV may be a latent virus that can be re-detected episodically. This study examined the persistence and/or redetection of HR HPV in young women recruited 6 years after identification of a HR HPV infection during their prior involvement in a longitudinal study of adolescent women.

**Methods:** 30 women from the prior study (the Young Women's Project) were recruited for 2 visits, 6 weeks apart. During Visit 1 they had a Pap test, HPV DNA testing, HPV serology, and were administered a semi-structured interview. During Visit 2, Pap test results were given, a self-swab for HPV testing was obtained, and a qualitative interview was administered.

**Results:** 15 women had normal Pap test results, 2 were ASCUS, and 3 LGSIL. 12 women had a history of colposcopy for a previous abnormal Pap results and 4 had received treatment for cervical dysplasia. 26 of the women had HPV 16 in the original YWP study. 11 had HPV 16 redetected in the present study, including in 6 women who had apparently "cleared" the infection during the original YWP study.

**Conclusions:** High risk HPV may not always (or ever) "clear" Persistent low viral levels may not be detectable. However, some HPV infections may be episodically detected if changes in immune function lead to increases in viral copies. Questions raised by this research include: 1) who is at risk for episodic detection?; 2) what factors are predictive of episodic detection?; 3) how likely is episodically-detected HR HPV to progress to cervical disease?; 4) what is the predictive value of a negative HPV DNA test?; and 5) what do we tell women with a positive HR HPV DNA screen if they have been sexually abstinent or with a life-long partner ... or if they have a new partner?